

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

TRAXCELL TECHNOLOGIES, LLC, §
Plaintiff, §
v. § Case No. 2:17-cv-00718-RWS-RSP
AT&T, INC., ET AL., §
Defendants. §

CLAIM CONSTRUCTION MEMORANDUM OPINION AND ORDER

Before the Court is the opening claim construction brief of Traxcell Technologies, LLC (“Plaintiff”) (Dkt. No. 155, filed on February 13, 2019),¹ the response of AT&T Corp., AT&T Mobility LLC, T-Mobile USA, Inc., Verizon Wireless Personal Communications LP, Sprint Communications Company, LP, Sprint Spectrum, LP, and Sprint Solutions, Inc. (collectively “Defendants”) (Dkt. No. 163, filed on March 12, 2019), and Plaintiff’s reply (Dkt. No. 164, filed on March 29, 2019). The Court held a hearing on the issue of claim construction on April 2, 2019. Having considered the arguments and evidence presented by the parties at the hearing and in their briefing, the Court issues this Order.

¹ Citations to the parties’ filings are to the filing’s number in the docket (Dkt. No.) and pin cites are to the page numbers assigned through ECF.

Table of Contents

I.	BACKGROUND	3
II.	LEGAL PRINCIPLES	5
A.	Claim Construction	5
B.	Departing from the Ordinary Meaning of a Claim Term.....	8
C.	Functional Claiming and 35 U.S.C. § 112, ¶ 6 (pre-AIA) / § 112(f) (AIA)	9
D.	Definiteness Under 35 U.S.C. § 112, ¶ 2 (pre-AIA) / § 112(b) (AIA)	11
III.	AGREED CONSTRUCTIONS	12
IV.	CONSTRUCTION OF DISPUTED TERMS.....	14
A.	“first computer,” “computer,” “second computer,” and “a second computer”.....	14
B.	“one of the radio-frequency transceivers”	18
C.	“performance issue” and “performance”	21
D.	“in order to restrict processing of radio frequency signals from at least one of said at least two wireless devices . . . in order to improve communication with at least one said wireless device”	24
E.	“referencing performance,” “referencing the performance data,” and “references the performance data”	27
F.	“means for . . . suggest corrective actions” and “means for . . . correcting radio frequency signals”	32
G.	’284 Patent Claim 12	37
H.	“error code”.....	42
I.	“access flag” and “no access flag”	44
J.	“wherein the first computer provides access . . . if the no access flag is reset” and “providing access from the first computer . . . if the no access flag is reset”	46
K.	“routinely”.....	49
L.	“a second processor”	51
M.	“preference flags”	53
N.	“the second radio-frequency transmitter”	55
V.	CONCLUSION	57

I. BACKGROUND

Plaintiff alleges infringement of four U.S. Patents: No. 8,977,284 (the “’284 Patent”), No. 9,510,320 (the “’320 Patent”), No. 9,549,388 (the “’388 Patent”), and No. 9,642,024 (the “’024 Patent”) (collectively, the “Asserted Patents”). The ’284 and ’320 Patents are each entitled Machine for Providing a Dynamic Data Base of Geographic Location Information for a Plurality of Wireless Devices and Process for Making Same. The ’388 Patent is entitled Mobile Wireless Device Providing Off-Line and On-Line Geographic Navigation Information. The ’024 Patent is entitled Mobile Wireless Communications System and Method with Corrective Action Responsive to Communications Fault Detection. The patents are related. They share a common priority claim to an application filed Oct. 4, 2001. And they are related through a chain of continuation applications and thus share a substantially common specification (outside of the claim sets).

The Court previously construed terms of the ’284, ’320, and ’024 Patents in *Traxcell Techs., LLC v. Huawei Techs. USA, Inc.*, No. 2:17-cv-00042-RWS-RSP, 2019 U.S. Dist. LEXIS 2130 (E.D. Tex. Jan. 4, 2019) (“*Huawei*”). Several of the terms now before the Court were construed in *Huawei*.

In general, the Asserted Patents are directed to technology for locating a wireless communications device and then using that location for other applications, such as for improving communications with the wireless device.

The abstracts of the ’284 and ’320 Patents are identical and provide:

For a wireless network, a tuning system in which mobile phones using the network are routinely located. With the location of the mobile phones identified, load adjustments for the system are easily accomplished so that the wireless network is not subject to an overload situation. Ideally the location of the mobile phones is accomplished whether the mobile phones are transmitting voice data or not.

The abstract of the '388 Patent provides:

A mobile device, wireless network and their method of operation provide both on-line (connected) navigation operation, as well as off-line navigation from a local database within the mobile device. Routing according to the navigation system can be controlled by traffic congestion measurements made by the wireless network that allow the navigation system to select the optimum route based on expected trip duration.

The abstract of the '024 Patent provides:

A mobile device, wireless network and their method of operation provide fault handling in response to detection of a communications fault between a connected mobile device and the communications network. The communications network tracks location of mobile devices and stores performance data of connections between the mobile devices and the network. The performance data is referenced to expected performance data to determine whether a fault exists and a corrective action is suggested when the fault exists.

Claim 1 of the '284 Patent, an exemplary apparatus claim, recites:

- 1. A wireless network comprising:**
 - a) at least two wireless devices, each said wireless device communicating via radio frequency signals;
 - b) a first computer programmed to perform the steps of:
 - 1) locating at least one said wireless device on said wireless network and referencing performance of said at least one wireless device with wireless network known parameters,
 - 2) routinely storing performance data and a corresponding location for said at least one wireless device in a memory;
 - c) a radio tower adapted to receive radio frequency signals from, and transmit radio frequency signals to said at least one wireless device; wherein said first computer further includes means for receiving said performance data and suggest corrective actions obtained from a list of possible causes for said radio tower based upon the performance data and the corresponding location associated with said at least one wireless device;
 - d) wherein said radio tower generates an error code based upon operation of said at least one wireless device; and
 - e) wherein said first computer is further programmed to,
 - 1) receive said error code from said radio tower, and,
 - 2) selectively suggest a corrective action of said radio frequency signals of said radio tower in order to restrict processing of radio frequency signals from at least one of said at least two wireless devices based upon said error code, and, whereby said first computer suggests said corrective action in order to improve communication with at least one said wireless device.

Claim 6 of the '024 Patent, an exemplary method claim, recites:

- 6.** A method of managing a wireless radio-frequency (RF) network, the method comprising:
coupling in communication, one or more radio-frequency transceivers and an associated one or more antennas to which the radio-frequency transceiver is coupled to one or more mobile wireless communications devices;
locating the one or more mobile wireless communications devices according to the radio-frequency communications and generating an indication of a location of the one or more mobile wireless communications devices;
receiving and storing performance data of connections between the one or more mobile wireless communications devices and the radio-frequency transceiver along with the indication of location;
referencing the performance data to expected performance data;
determining at least one suggested corrective action in conformity with differences between the performance data and expected performance data in conjunction with the indication of location;
receiving an error code from the radio-frequency transceiver;
determining whether the error code indicates a performance issue with respect to the connection between the one or more mobile wireless communications devices and the radio-frequency transceiver; and
determining the at least one suggested corrective action in response to the error code.

II. LEGAL PRINCIPLES

A. Claim Construction

“It is a ‘bedrock principle’ of patent law that ‘the claims of a patent define the invention to which the patentee is entitled the right to exclude.’” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc) (quoting *Innova/Pure Water Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To determine the meaning of the claims, courts start by considering the intrinsic evidence. *Id.* at 1313; *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858, 861 (Fed. Cir. 2004); *Bell Atl. Network Servs., Inc. v. Covad Commc’ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). The intrinsic evidence includes the claims themselves, the specification, and the prosecution history. *Phillips*, 415 F.3d at 1314; *C.R. Bard, Inc.*, 388 F.3d at 861. The general rule—subject to certain specific exceptions discussed *infra*—is that each claim term is construed according to its ordinary and accustomed meaning as understood by one of

ordinary skill in the art at the time of the invention in the context of the patent. *Phillips*, 415 F.3d at 1312–13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003); *Azure Networks, LLC v. CSR PLC*, 771 F.3d 1336, 1347 (Fed. Cir. 2014) (“There is a heavy presumption that claim terms carry their accustomed meaning in the relevant community at the relevant time.”) (vacated on other grounds).

“The claim construction inquiry . . . begins and ends in all cases with the actual words of the claim.” *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). “[I]n all aspects of claim construction, ‘the name of the game is the claim.’” *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298 (Fed. Cir. 2014) (quoting *In re Hiniker Co.*, 150 F.3d 1362, 1369 (Fed. Cir. 1998)). First, a term’s context in the asserted claim can be instructive. *Phillips*, 415 F.3d at 1314. Other asserted or unasserted claims can also aid in determining the claim’s meaning, because claim terms are typically used consistently throughout the patent. *Id.* Differences among the claim terms can also assist in understanding a term’s meaning. *Id.* For example, when a dependent claim adds a limitation to an independent claim, it is presumed that the independent claim does not include the limitation. *Id.* at 1314–15.

“[C]laims ‘must be read in view of the specification, of which they are a part.’” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc)). “[T]he specification ‘is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.’” *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). But, “[a]lthough the specification may aid the court in interpreting the meaning of disputed claim language, particular embodiments and examples appearing in the specification will not generally be read into the claims.”” *Comark Commc’ns, Inc.*

v. Harris Corp., 156 F.3d 1182, 1187 (Fed. Cir. 1998) (quoting *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988)); *see also Phillips*, 415 F.3d at 1323. “[I]t is improper to read limitations from a preferred embodiment described in the specification—even if it is the only embodiment—into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004).

The prosecution history is another tool to supply the proper context for claim construction because, like the specification, the prosecution history provides evidence of how the U.S. Patent and Trademark Office (“PTO”) and the inventor understood the patent. *Phillips*, 415 F.3d at 1317. However, “because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes.” *Id.* at 1318; *see also Athletic Alternatives, Inc. v. Prince Mfg.*, 73 F.3d 1573, 1580 (Fed. Cir. 1996) (ambiguous prosecution history may be “unhelpful as an interpretive resource”).

Although extrinsic evidence can also be useful, it is “less significant than the intrinsic record in determining the legally operative meaning of claim language.” *Phillips*, 415 F.3d at 1317 (quoting *C.R. Bard, Inc.*, 388 F.3d at 862). Technical dictionaries and treatises may help a court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but technical dictionaries and treatises may provide definitions that are too broad or may not be indicative of how the term is used in the patent. *Id.* at 1318. Similarly, expert testimony may aid a court in understanding the underlying technology and determining the particular meaning of a term in the pertinent field, but an expert’s conclusory, unsupported assertions as to a term’s definition are not helpful to a court. *Id.* Extrinsic evidence is “less reliable than the patent

and its prosecution history in determining how to read claim terms.” *Id.* The Supreme Court has explained the role of extrinsic evidence in claim construction:

In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period. *See, e.g., Seymour v. Osborne*, 11 Wall. 516, 546 (1871) (a patent may be “so interspersed with technical terms and terms of art that the testimony of scientific witnesses is indispensable to a correct understanding of its meaning”). In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the “evidentiary underpinnings” of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.

Teva Pharm. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 841 (2015).

B. Departing from the Ordinary Meaning of a Claim Term

There are “only two exceptions to [the] general rule” that claim terms are construed according to their plain and ordinary meaning: “1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the specification or during prosecution.”² *Golden Bridge Tech., Inc. v. Apple Inc.*, 758 F.3d 1362, 1365 (Fed. Cir. 2014) (quoting *Thorner v. Sony Computer Entm’t Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012)); *see also GE Lighting Solutions, LLC v. AgiLight, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014) (“[T]he specification and prosecution history only compel departure from the plain meaning in two instances: lexicography and disavowal.”). The standards for finding lexicography or disavowal are “exacting.” *GE Lighting Solutions*, 750 F.3d at 1309.

To act as his own lexicographer, the patentee must “clearly set forth a definition of the disputed claim term” and “clearly express an intent to define the term.” *Id.* (quoting *Thorner*, 669

² Some cases have characterized other principles of claim construction as “exceptions” to the general rule, such as the statutory requirement that a means-plus-function term is construed to cover the corresponding structure disclosed in the specification. *See, e.g., CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1367 (Fed. Cir. 2002).

F.3d at 1365); *see also Renishaw*, 158 F.3d at 1249. The patentee’s lexicography must appear “with reasonable clarity, deliberateness, and precision.” *Renishaw*, 158 F.3d at 1249.

To disavow or disclaim the full scope of a claim term, the patentee’s statements in the specification or prosecution history must amount to a “clear and unmistakable” surrender. *Cordis Corp. v. Boston Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009); *see also Thorner*, 669 F.3d at 1366 (“The patentee may demonstrate intent to deviate from the ordinary and accustomed meaning of a claim term by including in the specification expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.”). “Where an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.” *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013).

C. Functional Claiming and 35 U.S.C. § 112, ¶ 6 (pre-AIA) / § 112(f) (AIA)³

A patent claim may be expressed using functional language. *See* 35 U.S.C. § 112, ¶ 6; *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347–49 & n.3 (Fed. Cir. 2015) (en banc in relevant portion). Section 112, Paragraph 6, provides that a structure may be claimed as a “means . . . for performing a specified function” and that an act may be claimed as a “step for performing a specified function.” *Masco Corp. v. United States*, 303 F.3d 1316, 1326 (Fed. Cir. 2002).

But § 112, ¶ 6 does not apply to all functional claim language. There is a rebuttable presumption that § 112, ¶ 6 applies when the claim language includes “means” or “step for” terms, and that it does not apply in the absence of those terms. *Masco Corp.*, 303 F.3d at 1326; *Williamson*, 792 F.3d at 1348. The presumption stands or falls according to whether one of ordinary skill in the art would understand the claim with the functional language, in the context of

³ The Court refers to the pre-AIA version of § 112 but understands that there is no substantial difference between functional claiming under the pre-AIA version and under the AIA version of the statute.

the entire specification, to denote sufficiently definite structure or acts for performing the function.

See Media Rights Techs., Inc. v. Capital One Fin. Corp., 800 F.3d 1366, 1372 (Fed. Cir. 2015) (§ 112, ¶ 6 does not apply when “the claim language, read in light of the specification, recites sufficiently definite structure” (quotation marks omitted) (citing *Williamson*, 792 F.3d at 1349; *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1099 (Fed. Cir. 2014)); *Williamson*, 792 F.3d at 1349 (§ 112, ¶ 6 does not apply when “the words of the claim are understood by persons of ordinary skill in the art to have sufficiently definite meaning as the name for structure”); *Masco Corp.*, 303 F.3d at 1326 (§ 112, ¶ 6 does not apply when the claim includes an “act” corresponding to “how the function is performed”); *Personalized Media Communications, L.L.C. v. International Trade Commission*, 161 F.3d 696, 704 (Fed. Cir. 1998) (§ 112, ¶ 6 does not apply when the claim includes “sufficient structure, material, or acts within the claim itself to perform entirely the recited function . . . even if the claim uses the term ‘means.’” (quotation marks and citation omitted)).

When it applies, § 112, ¶ 6 limits the scope of the functional term “to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof.” *Williamson*, 792 F.3d at 1347. Construing a means-plus-function limitation involves multiple steps. “The first step . . . is a determination of the function of the means-plus-function limitation.” *Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001). “[T]he next step is to determine the corresponding structure disclosed in the specification and equivalents thereof.” *Id.* A “structure disclosed in the specification is ‘corresponding’ structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim.” *Id.* The focus of the “corresponding structure” inquiry is not merely whether a structure is capable of performing the recited function, but rather whether the corresponding structure is “clearly linked or associated with the [recited] function.”

Id. The corresponding structure “must include all structure that actually performs the recited function.” *Default Proof Credit Card Sys. v. Home Depot U.S.A., Inc.*, 412 F.3d 1291, 1298 (Fed. Cir. 2005). However, § 112 does not permit “incorporation of structure from the written description beyond that necessary to perform the claimed function.” *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999).

For § 112, ¶ 6 limitations implemented by a programmed general purpose computer or microprocessor, the corresponding structure described in the patent specification must include an algorithm for performing the function. *WMS Gaming Inc. v. Int'l Game Tech.*, 184 F.3d 1339, 1349 (Fed. Cir. 1999). The corresponding structure is not a general purpose computer but rather the special purpose computer programmed to perform the disclosed algorithm. *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

D. Definiteness Under 35 U.S.C. § 112, ¶ 2 (pre-AIA) / § 112(b) (AIA)⁴

Patent claims must particularly point out and distinctly claim the subject matter regarded as the invention. 35 U.S.C. § 112, ¶ 2. A claim, when viewed in light of the intrinsic evidence, must “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). If it does not, the claim fails § 112, ¶ 2 and is therefore invalid as indefinite. *Id.* at 901. Whether a claim is indefinite is determined from the perspective of one of ordinary skill in the art as of the time the application for the patent was filed. *Id.* at 911. As it is a challenge to the validity of a patent, the failure of any claim in suit to comply with § 112, ¶ 2 must be shown by clear and convincing evidence. *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1365 (Fed. Cir. 2017). “[I]ndefiniteness is a question of law and in

⁴ The Court refers to the pre-AIA version of § 112 but understands that there is no substantial difference between definiteness under the pre-AIA version and under the AIA version of the statute.

effect part of claim construction.” *ePlus, Inc. v. Lawson Software, Inc.*, 700 F.3d 509, 517 (Fed. Cir. 2012).

When a term of degree is used in a claim, “the court must determine whether the patent provides some standard for measuring that degree.” *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1378 (Fed. Cir. 2015) (quotation marks omitted). Likewise, when a subjective term is used in a claim, “the court must determine whether the patent’s specification supplies some standard for measuring the scope of the [term].” *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1351 (Fed. Cir. 2005). The standard “must provide objective boundaries for those of skill in the art.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014).

In the context of a claim governed by 35 U.S.C. § 112, ¶ 6, the claim is invalid as indefinite if the claim fails to disclose adequate corresponding structure to perform the claimed function. *Williamson*, 792 F.3d at 1351–52. The disclosure is inadequate when one of ordinary skill in the art “would be unable to recognize the structure in the specification and associate it with the corresponding function in the claim.” *Id.* at 1352.

III. AGREED CONSTRUCTIONS

The parties have agreed to the following constructions set forth in their Amended Joint Claim Construction Chart (Dkt. No. 166) or expressed at the hearing.

Term ⁵	Agreed Construction
“radio tower” • ’284 Patent Claims 1 and 12	base station transceiver subsystem and associated antenna(s)
“location” • ’284 Patent Claims 1 and 12 • ’320 Patent Claim 8	location that is not merely a position in a grid pattern

⁵ For all term charts in this order, the claims in which the term is found are listed with the term but: (1) only the highest-level claim in each dependency chain is listed, and (2) only asserted claims identified in the parties’ Amended Joint Claim Construction Chart (Dkt. No. 166) are listed.

Term⁵	Agreed Construction
“indication of a location” / “indication of location” <ul style="list-style-type: none"> • ’320 Patent Claims 1 and 4 • ’024 Patent Claims 1, 6, 11, 17 	location that is not merely a position in a grid pattern
“locate” <ul style="list-style-type: none"> • ’320 Patent Claim 1 • ’024 Patent Claim 1 	determine location that is not merely a position in a grid pattern
“locating” <ul style="list-style-type: none"> • ’284 Patent Claim 1 • ’320 Patent Claim 4 • ’024 Patent Claims 6, 17 	determining location that is not merely a position in a grid pattern
“corrective action” <ul style="list-style-type: none"> • ’284 Patent Claim 1 • ’320 Patent Claims 1, 4 • ’024 Patent Claims 1, 6, 11, 17 	plain and ordinary meaning
“corrective adjustment” <ul style="list-style-type: none"> • ’284 Patent Claim 2 • ’024 Patent Claim 8 	plain and ordinary meaning
“correction for adjusting” <ul style="list-style-type: none"> • ’284 Patent Claim 7 	plain and ordinary meaning
“correcting radio frequency signals” <ul style="list-style-type: none"> • ’284 Patent Claim 12 	plain and ordinary meaning
“corrects the radio frequency signals” <ul style="list-style-type: none"> • ’284 Patent Claim 12 	plain and ordinary meaning
“status request” <ul style="list-style-type: none"> • ’284 Patent Claims 9, 12 	request for location of a wireless device
“performance data” <ul style="list-style-type: none"> • ’284 Patent Claims 1, 12 • ’320 Patent Claims 1, 4 • ’024 Patent Claims 1, 6, 11, 17 	performance data that is not determined by the wireless communications device
“faulty” <ul style="list-style-type: none"> • ’024 Patent Claim 11, 17 	plain and ordinary meaning

Having reviewed the intrinsic and extrinsic evidence of record, the Court hereby adopts the parties’ agreed constructions.

IV. CONSTRUCTION OF DISPUTED TERMS

A. “first computer,” “computer,” “second computer,” and “a second computer”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“first computer” • ’284 Patent Claims 1, 12 • ’320 Patent Claims 1, 4	plain and ordinary meaning	first single computer
“computer” • ’024 Patent Claims 1, 7–8, 11, 17	plain and ordinary meaning	single computer
“second computer” / “a second computer” • ’284 Patent Claims 6, 9, 12 • ’320 Patent Claims 1, 4	plain and ordinary meaning	second single computer

Because the parties’ arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties’ Positions

Plaintiff submits: The patentee’s arguments during prosecution of the ’284 Patent do not limit “first computer” or “computer” or “second computer” to a single computer. Rather, the patentee distinguished the invention of the patent from the prior art by noting the first computer of the patent “does not require extra hardware and software and antenna equipment” in the wireless device. The distinguished prior-art reference (*Andersson*) requires a computer in the wireless device. The invention of the ’284 Patent does not require a computer in the wireless device because it “monitors performance from the base station, not the mobile device.” Even if “first computer” is limited to a single computer through statements made during prosecution of the ’284 Patent, this limitation does not apply to the later-filed ’320 Patent because any disclaimer of claim scope was revoked during prosecution of the ’320 Patent. Nor would a single-computer limitation be applied to

“second computer” in any patent since the prosecution statements referred only to “first computer.” Dkt. No. 155 at 8–14.

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: ’284 Patent File Wrapper September 28, 2012 Amendment and Response (Plaintiff’s Ex. B, Dkt. No. 155-3); ’320 Patent File Wrapper November 9, 2015 Preliminary Amendment (Plaintiff’s Ex. A, Dkt. No. 155-2).

Defendants respond: During prosecution of the ’284 Patent, the patentee distinguished the invention of the patent from the prior art by noting that the invention of the patent utilizes a single computer to both locate the wireless device and reference its performance. Notably, the then-pending claims, which were the subject of the prosecution statements, were agnostic regarding whether the “first computer” was in the mobile device. With respect to the ’320 Patent, the vague statements made during prosecution of that patent are not sufficient to rescind the disclaimer made in prosecuting the ’284 Patent. Finally, the patentee’s prosecution statements made clear that “computer” is used in the patents to refer to a single computer, thus the “first computer” and the “second computer” are each a single computer. Dkt. No. 163 at 6–7, 28.

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: ’284 Patent File Wrapper September 28, 2012 Amendment and Response Plaintiff’s Ex. B, Dkt. No. 155-3).

Plaintiff replies: The “first computer” at issue during prosecution of the ’284 Patent expressly performed functions other than locating the wireless device and referencing its performance. Thus, any prosecution statement regarding a single computer performing the locating and referencing functions does not mean that the “first computer” is necessarily a single computer. Dkt. No. 164 at 2–3.

Analysis

The issue in dispute is whether the “first computer,” “computer,” and “second computer” of the claims may each be a system of multiple computers. They may not. The terms each refer to a single computer.

The “first computer” in question here is a single computer. This was made clear during prosecution of the ’284 Patent. The patent applicant clearly distinguished the location/performance computer of the claims from location/performance systems of the prior art in that the computer of the claims was a single computer whereas the prior art included a second computer. For instance, the applicant distinguished the claimed invention (“*Reed*”) from a prior-art reference (“*Andersson*”):

While *Andersson* requires an operative connection with the wireless device (*in addition to a second computer* requiring additional hardware and software) in order to improve communication, *Reed* requires only a first computer to reference the location and performance data for the wireless device, and then adjust radio tower to improve communication.

’284 Patent File Wrapper September 28, 2012 Amendment and Response at 16–17 (emphasis added), Dkt. No. 155-3 at 17–18. Applicant repeated this single-versus-multiple-computer distinction:

Reed’s invention for its functionality requires only “a first computer”. Andersson, on the other side, cannot provide a location for the phone, without a second computer in the phone. *Andersson* requires that the mobile device contain special equipment (first computer and second computer, and communication with a mobile device) in order to improve communication

Reed offers a single computer, containing location and performance information about all wireless devices on the wireless communications network (*without the need for* special hardware in the phone, *second computers*, or a two way tuning communication with the wireless device).

Id. at 36–37 (emphasis added), Dkt. No. 155-3 at 37–38. The “computer” and “first computer” are single computers.⁶ This does not preclude a “second computer” in the accused instrumentality, so long as a single computer performs the recited functions of the “computer” or “first computer.” *See, e.g.*, ’284 Patent Claims 9 and 12 (reciting a “second computer”).

The Court understands the patent-applicant’s prosecution-history statements that the claimed invention does not require a feature required by a prior-art reference to mean that the prior-art feature does not satisfy a particular limitation of a pending claim. During prosecution of the ’284 Patent, the patent applicant ostensibly distinguished the prior art on the grounds that the prior art “requires” a limitation not “required” by the claimed invention. The context of these statements is that of a patent applicant responding to a patent-examiner’s office action stating that the prior art discloses the limitations of the pending claims. *See, e.g.*, ’284 Patent File Wrapper September 28, 2012 Amendment and Response at 10 (noting the claims “were rejected under 35 U.S.C. § 103(a) as being unpatentable over . . . *Andersson* . . . in view of . . . *Steer*”), Dkt. No. 155-3 at 11. In this context, the patent applicant was arguing that the particular claim limitation at issue is not satisfied by that feature required by the prior art. For example, the applicant argued that *Andersson* does not satisfy the “first computer” limitation because it does not disclose a single computer that provides the location/performance functions. Rather, *Andersson* requires two computers (a first and a second). This is not properly understood as an argument that the claimed computer is not as limited as the prior art (i.e., that it is broader than and therefore encompasses the prior art). Such an understanding would ignore the context of the prosecution history—that the applicant was

⁶ Claim 17 of the ’024 Patent recites both “the computer system” and “the computer.” *See, e.g.*, ’024 Patent col.131 at ll.16, 28. The Court understands that “computer” and “computer system” are used synonymously in Claim 17 to refer to a single computer rather than a system of multiple computers.

arguing that the prior-art references did not teach specific limitations of the claims. The patent applicant was arguing that the prior art did not disclose the limitations of the pending claims, not that the limitations were broader than that disclosed by the prior art.

To be clear, the Court understands from the prosecution arguments that the patent applicant used “computer” in a singular sense. This is different than a disclaimer. The prosecution arguments simply provide context for the applicant’s intended meaning of “computer” as a singular computer rather than a system of computers.

Based on the Court’s understanding that “computer” is used in the Asserted Patents according to its singular plain meaning, the Court holds that “second computer” is also a singular computer and the “first computer” of the ’320 Patent is also a singular computer. The Court so holds without need to address whether the blanket revocation of prior disclaimers was sufficient to rescind any claim-limitation narrowing during prosecution of the ’284 Patent.

Accordingly, the Court construes the terms as follows:

- “first computer” means “first single computer”;
- “computer” means “single computer”;
- “second computer” means “second single computer”; and
- “a second computer” means “a second single computer.”

B. “one of the radio-frequency transceivers”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“one of the radio-frequency transceivers” • ’024 Patent Claim 11	plain and ordinary meaning	indefinite

The Parties' Positions

Plaintiff submits: Defendants cannot prove by clear-and-convincing evidence that this term lacks an antecedent basis or is otherwise indefinite. Dkt. No. 155 at 24.

Defendants respond: Claim 11 requires (1) a computer to receive an indication of faulty communication between “a particular one of the radio-frequency transceivers,” (2) a mobile device to transmit an indication of performance of communication between “the particular one of the multiple radio-frequency transceivers” and a mobile device, and (3) the computer to receive the indication from “one of the multiple radio-frequency transceivers” that the communication between “the particular one of the radio frequency transceivers” and the mobile device is faulty. It is not clear if the “one of the multiple radio-frequency transceivers” from which the computer receives the indication is “the particular one of the multiple radio-frequency transceivers.” It could be. But it also could be a different one of the multiple radio-frequency transceivers. Because there is no way to determine which interpretation is correct, the claim is indefinite. Dkt. No. 163 at 7–9.

In addition to the claims themselves, Defendants cite the following **extrinsic evidence** to support their position: Turnbull Decl.⁷ ¶¶ 107, 110 (Defendants’ Ex. C, Dkt. No. 163-4 at 27).

Plaintiff replies: The one of the multiple radio-frequency transceivers from which the computer receives the indication may be any of the multiple radio-frequency transceivers, including “the particular one of the multiple radio-frequency transceivers.” Dr. Turnbull’s opinion on this term is not reliable because he assumes that the claim must specify whether the transceiver from which the computer receives the indication is “the particular one of the multiple radio-frequency transceivers.” Dkt. No. 164 at 7–8, 10.

⁷ Declaration of Dr. Don Turnbull, Ph.D.

Plaintiff cites further **extrinsic evidence** to support its position: Turnbull Decl. ¶ 106 (Defendants' Ex. C, Dkt. No. 163-4 at 26).

Analysis

The issue in dispute is whether the meaning of “one of the radio-frequency transceivers” in the claims is reasonably certain. In the context of the surrounding claim language, the meaning of “one of the multiple radio-frequency transceivers” is reasonably certain.

Claim 11 of the '024 Patent, reproduced here and annotated by the Court, recites “multiple radio-frequency transceivers” for communication with one or more wireless devices. A computer is configured to receive an indication that one of the transceivers (“a particular one of the radio-frequency transceivers”) has faulty communication. The computer takes corrective action on the transceiver (“the particular radio-frequency transceiver”) to remedy the fault. The one or more wireless devices are configured to transmit an indication of performance of the communication with the transceiver (“the particular one of the multiple radio-frequency transmitters”). The computer is programmed to receive this indication from “one of the multiple radio-frequency transceivers.” The

11. A system including:
multiple radio-frequency transceivers and associated multiple antennas to which the associated radio-frequency transceivers are coupled, wherein the multiple radio-frequency transceivers are configured for radio-frequency communication with ***one or more mobile wireless communications devices***; and a computer coupled to the multiple radio-frequency transceivers that receives and stores an indication of a location of the one or more mobile wireless communications devices, wherein the computer receives ***an indication*** that indicates that communication between ***a particular one of the radio-frequency transceivers*** and the one or more mobile wireless communications devices is faulty, wherein the computer takes corrective action on ***the particular radio-frequency transceiver*** to attempt to remedy the fault, wherein the one or more mobile wireless communications devices transmit ***an indication*** of performance of communication with ***the particular one of the multiple radio-frequency transmitters***, and wherein the computer is further programmed to receive ***the indication of performance from one of the multiple radio-frequency transceivers as the indication*** that the communication between ***the particular one of the radio-frequency transceivers*** and the one or more mobile wireless communications devices is faulty, wherein the computer further receives and stores performance data of connections between the one or more mobile wireless communications devices and the multiple radio-frequency transceivers along with the indication of location, wherein the computer references the performance data to expected performance data, and wherein the computer determines at least one suggested corrective action in conformity with differences between the performance data and expected performance data in conjunction with the indication of location.

meaning of this is reasonably certain: the computer may receive the indication from any of the multiple radio-frequency transceivers, including “the particular radio-frequency transceiver.”

Accordingly, the Court determines the Defendants have not proven that any claim is indefinite for including “one of the radio-frequency transceivers.”

C. “performance issue” and “performance”⁸

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“performance issue” • ’320 Patent Claims 2, 5 • ’024 Patent Claims 1, 6, 21	plain and ordinary meaning	performance issue that is not determined by the wireless communications device
“performance” • ’284 Patent Claim 1 • ’024 Patent Claims 11, 17	plain and ordinary meaning	performance that is not determined by the wireless communications device

Because the parties’ arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties’ Positions

Plaintiff submits: “Performance issue” and “performance” should not be construed the same as “performance data” and are easily understandable without construction. These are three distinct terms that presumptively have different meanings. And the statements made during prosecution of the ’284 Patent that narrow “performance data” to data that is not determined by the wireless device do not apply to “performance issue” and “performance.” Dkt. No. 155 at 16–17.

⁸ After briefing was complete, the parties reached agreement on the construction of “performance data” and Defendants modified their proposals for “performance” and “performance issue.” See Dkt. No. 166 at 3; Dkt. No. 166-3 at 2, 3. Originally, Defendants proposed “metric regarding performance of a particular wireless communications device that is not determined by the wireless communications device” for each of “performance data,” “performance issue,” and “performance.” See, e.g., Dkt. No. 165-3 at 3, 4, 8;

Defendants respond: The terms “performance data,” “performance issue,” and “performance” are used interchangeably in the Asserted Patents and therefore should be construed the same. And while the Court’s previous construction of “performance data” in *Huawei*⁹ is correct with respect to the source of the data (it is not determined by the wireless device), it fails to clarify what “performance data” actually is. In the computer field, the art of the Asserted Patents, “performance” refers to the “degree by which a system of components accomplishes its designated functions”; thus, “performance” in the Asserted Patents refers to the performance of a particular wireless communications device. Dkt. No. 163 at 9–12.

In addition to the claims themselves, Defendants cite the following intrinsic and extrinsic evidence to support their position: **Intrinsic evidence:** ’284 Patent figs.28–52, col.36 l.22 – col.76 l.2; ’284 Patent File Wrapper September 28, 2012 Amendment and Response Plaintiff’s Ex. B, Dkt. No. 155-3). **Extrinsic evidence:** *Dictionary of Computer Science, Engineering, and Technology* (2001) “performance” (Defendants’ Ex. E, Dkt. No. 163-6 at 5).

Plaintiff replies: Defendants’ proposed constructions improperly render claim language mere surplusage. Dkt. No. 164 at 4.

Analysis

Given the parties’ post-briefing agreement on the construction of “performance data” and Defendants’ new proposals for the construction of “performance” and “performance issue,” the Court understands the issue in dispute to be whether all “performance” referenced in the claims must be determined by something other than the wireless communications device. Because “performance” and “performance issue” are used in the claims differently than “performance

⁹ *Traxcell Techs., LLC v. Huawei Techs. USA, Inc.*, No. 2:17-cv-00042-RWS-RSP, 2019 U.S. Dist. LEXIS 2130, at *28–30 (E.D. Tex. Jan. 4, 2019).

data,” the Court determines that “performance” and “performance issue” are not necessarily determined by something other than the wireless communications device.

The Court will not read limitations into “performance issue” from “performance data.” These terms are used differently in the claims. For example, Claim 1 of the ’024 Patent recites that a computer “receives and stores performance data” and “references the performance data to expected performance data” to determine a corrective action using the “differences between the performance data and the expected performance data.” ’024 Patent col.128 ll.14–20. The claim also recites that the computer “further receives an error code” and “determines whether the error code indicates a performance issue.” *Id.* at col.128 ll.24–29. “Performance data” and “performance issue” are thus two distinct concepts in the claim, one (the data) is received by the computer and used to determine a corrective action, the other (the issue) is determined from an error code received by the computer. In *Huawei*, the Court construed “performance data” in light of prosecution-history statements explaining the performance data of the invention was not determined on a wireless communications device. 2019 U.S. Dist. LEXIS 2130, at *28–30. On the record before the Court, there is no reason to limit “performance issue” as Defendants suggest. Notably, the argument to attach the prosecution-history-derived limitation to “performance issue” is that “performance issue” is the same as “performance data.” Given that the two terms are not the same, the Court declines to attach the “not determined by the wireless communications device” limitation to “performance issue.”

Likewise, the Court will not read limitations into “performance” from “performance data.” These terms are used differently in the claims. For example, Claim 11 of the ’024 Patent recites that a computer “receives the indication of performance” and “further receives performance data.” ’024 Patent col.130 ll.22–24, 28–30. The “indication of performance” indicates faulty

communications between a particular transceiver and one or more wireless devices, *id.* at col.130 ll.24–28, and the “performance data” is used to determine a corrective action, *id.* at col.130 ll.32–38. “Performance data” and “performance” are thus two distinct concepts in the claim. Again, on the record before the Court, there is no reason to limit “performance” as Defendants suggest.

Accordingly, the Court rejects Defendants’ proposals to read “that is not determined by the wireless communications device” into “performance” and “performance issue” and further holds that the terms have their plain and ordinary meaning without the need for further construction.

D. “in order to restrict processing of radio frequency signals from at least one of said at least two wireless devices . . . in order to improve communication with at least one said wireless device”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“in order to restrict processing of radio frequency signals from at least one of said at least two wireless devices . . . in order to improve communication with at least one said wireless device” • ’284 Patent Claim 1	not indefinite	indefinite

The Parties’ Positions

Plaintiff submits: The “at least one said wireless device” that has communications improved via the corrective action of Claim 1 of the ’284 Patent refers to the “at least two wireless devices” recited immediately after the “comprising” transitional phrase. Dkt. No. 155 at 25–28.

In addition to the claims themselves, Plaintiff cites the following **intrinsic and extrinsic evidence** to support its position: **Intrinsic evidence:** ’284 Patent figs.38-A, 38-B, col.46 l.61 –

col.47 1.8, col.54 ll.8–12, col.54 1.21 – col.55 1.34, col.59 ll.37–43, col.60 ll.30–31, col.62 ll.60–65, col.72 ll.32–45. **Extrinsic evidence:** *Dictionary.com* “each.”¹⁰

Defendants respond: Plaintiff should be bound by the Court’s previous decision in *Huawei*¹¹ that the meaning of this term is not reasonably certain. Further, Plaintiff failed entirely to address the relationship between the restricted wireless device and any other of the wireless devices in the claim. Ultimately, it is not clear what the relationship is among the at least two wireless devices, the at least one restricted wireless device, and the “at least one said wireless device” targeted for improved communications. This lack of reasonable certainty in claim scope is further evinced by Plaintiff’s filing of a Request for Certificate of Correction with the U.S. Patent and Trademark Office in an attempt to address the Court’s *Huawei* decision. Dkt. No. 163 at 12–14.

In addition to the claims themselves, Defendants cite the following intrinsic and extrinsic evidence to support their position: **Intrinsic evidence:** ’284 Patent col.54 ll.8–12; ’284 Patent File Wrapper January 14, 2019 Request for Certificate of Correction (Defendants’ Ex. G, Dkt. No. 163-8), March 8, 2019 Replacement Request for Certificate of Correction (Defendants’ Ex. J, Dkt. No. 163-11). **Extrinsic evidence:** Turnbull Decl. ¶¶ 37–38, 41 (Defendants’ Ex. C, Dkt. No. 163-4 at 13–14).

Plaintiff replies: Plaintiff is not bound by the Court’s decision in *Huawei*. And Defendants have not proven that the meaning of the claim is not reasonably certain. Dkt. No. 164 at 8–10.

¹⁰ <https://www.dictionary.com/browse/each>.

¹¹ 2019 U.S. Dist. LEXIS 2130, at *43–45.

Analysis

The issue in dispute is whether the meaning of “in order to restrict processing of radio frequency signals from at least one of said at least two wireless devices . . . in order to improve communication with at least one said wireless device” in the claims is reasonably certain. It is not.

The Court rejects Defendants’ argument that the claim is indefinite because it doesn’t specifically identify which of “at least one of said at least two wireless devices” for which processing of radio frequency signals is restricted. Such specificity is not required to understand Claim 1 of the ’284 Patent. There are multiple wireless devices, and the radio-frequency processing for at least one of them is restricted.

The Court agrees with Defendants, however, that it is not reasonably certain which wireless devices experience the communication improvement stemming from the restriction. Claim 1 of the ’284 Patent, reproduced here and annotated by the Court, includes various references to

1. A wireless network comprising:
 - a) *at least two wireless devices*, each said wireless device communicating via radio frequency signals;
 - b) a first computer programmed to perform the steps of:
 - 1) locating *at least one said wireless device* on said wireless network and referencing performance of *said at least one wireless device* with wireless network known parameters,
 - 2) routinely storing performance data and a corresponding location for *said at least one wireless device* in a memory;
 - c) a radio tower adapted to receive radio frequency signals from, and transmit radio frequency signals to *said at least one wireless device*; wherein said first computer further includes means for receiving said performance data and suggest corrective actions obtained from a list of possible causes for said radio tower based upon the performance data and the corresponding location associated with said at least one wireless device;
 - d) wherein said radio tower generates an error code based upon operation of *said at least one wireless device*; and
 - e) wherein said first computer is further programmed to,
 - 1) receive said error code from said radio tower, and,
 - 2) selectively suggest a corrective action of said radio frequency signals of said radio tower in order to restrict processing of radio frequency signals *from at least one of said at least two wireless devices* based upon said error code, and, whereby said first computer suggests said corrective action in order to improve communication with *at least one said wireless device*.

“said wireless device,” “at least one said wireless device,” “said at least one wireless device,” and “at least one of said at least two wireless devices.” Is the target of the communication improvement one of the restricted devices? Is it any of the devices? Is it one of the unrestricted devices? Thus,

the Court agrees with Defendants that the meaning of the term, and Claim 1 of the '284 Patent, is not reasonably certain.

The Court is not persuaded by Plaintiff's argument that it is reasonably certain the "at least one said wireless device" in the last clause of Claim 1 (in red) refers to one of the "at least two wireless devices" immediately following the "comprising" transitional phrase (in blue). Indeed, it appears from its Request for Certificate of Correction that Plaintiff is taking a different position before the U.S. Patent and Trademark Office ("PTO"). Specifically, it seeks to change "at least one said wireless device" to "said at least one wireless device," which along with the other requested changes, suggests Plaintiff's PTO position is that "at least one said wireless device" refers to the "at least one said wireless device" that is located on the wireless network (in green).

See '284 Patent File Wrapper March 8, 2019 Replacement Request for Certificate of Correction, Dkt. No. 163-11 at 3. At the hearing, Plaintiff pivoted to this position. But the Court is still not convinced. Subsequent references to the "at least one said wireless device" on the network are stated as "said at least one wireless device." There is a substantial difference between "said at least one wireless device" throughout the claims and the final recitation of "at least one said wireless device." It is not reasonably certain that they refer to the same thing.

Accordingly, the Court holds the Defendants have proven that Claim 1 of the '284 Patent is indefinite.

E. "referencing performance," "referencing the performance data," and "references the performance data"

Disputed Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
"referencing performance" • '284 Patent Claim 1	"referring to performance"	indefinite

Disputed Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
“referencing the performance data” • ’320 Patent Claim 4 • ’024 Patent Claims 6, 17	“referring to the performance data”	indefinite
“references the performance data” • ’320 Patent Claim 1 • ’024 Patent Claims 1, 11	“referring to the performance data”	indefinite

Because the parties’ arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties’ Positions

Plaintiff submits: For the reasons set forth by the Court in *Huawei*,¹² these terms are not indefinite. Dkt. No. 155 at 29.

Defendants respond: “Referencing” is not a term of art and is used in disparate ways in the Asserted Patents, thus it is not reasonably certain what computer actions constitute “referencing” or “references.” For example, does referencing data require looking up data, identifying data, requesting and receiving data, checking the existence of the data, or something else? And the Court’s previous construction of “referencing performance” as “referring to performance” fails to resolve this ambiguity. Further, interpreting “referencing” as “referring to” fails altogether in certain usages. For example, Claim 4 of the ’320 Patent recites “referencing the performance data to expected performance data.” Dkt. No. 163 at 14–16.

In addition to the claims themselves, Defendants cite the following intrinsic and extrinsic evidence to support their position: **Intrinsic evidence:** ’284 Patent col.30 l.26, col.30 ll.44–48,

¹² U.S. Dist. LEXIS 2130, at *40–41 (construing “referencing performance” from Claim 1 of the ’284 Patent).

col.34 ll.53–54, col.36 ll.24–27, col.36 ll.29–32, col.36 ll.36–40; ’320 Patent col.37 ll.31–32.

Extrinsic evidence: Turnbull Decl. ¶¶ 46–52, 87–96, 111–120 (Defendants’ Ex. C, Dkt. No. 163-4 at 15–16, 23–25, 27–29).

Plaintiff replies: Defendants have not shown that the Court should deviate from its construction in *Huawei*. Dkt. No. 164 at 10–11.

Analysis

The issue in dispute is whether the meaning of “references” and “referencing” have reasonably certain meanings in the claims. They do.

To begin, the Court in *Huawei* construed “referencing performance” in Claim 1 of the ’284 Patent as “referring to performance.” U.S. Dist. LEXIS 2130, at *40–41. As set forth below, the Court here adopts a narrower construction than it did in *Huawei* to better reflect the context provided by the surrounding claim language and the description of the invention.

The meaning of the reference terms is clear when taken in the context of the surrounding claim language and the technical disclosure of the Asserted Patents. For example, ’320 Patent Claim 1 provides:

wherein the first computer references the performance data to expected performance data, and wherein the first computer determines at least one suggested corrective action in conformity with differences between the performance data and expected performance data in conjunction with the indication of location

’320 Patent col.129 ll.17–22. This suggests that the performance data is compared with reference data (the expected performance data) and differences between the two sets of data are used to determine a corrective action. Thus, “references” here refers to comparing the performance data with the expected performance data (the reference data). The Asserted Patents’ technical disclosure supports this understanding of “references.” For example, item 2130 in the flowchart of Figure 21 (reproduced and annotated below) is labeled “COMPUTED VALUE #1 IS REFERENCED TO

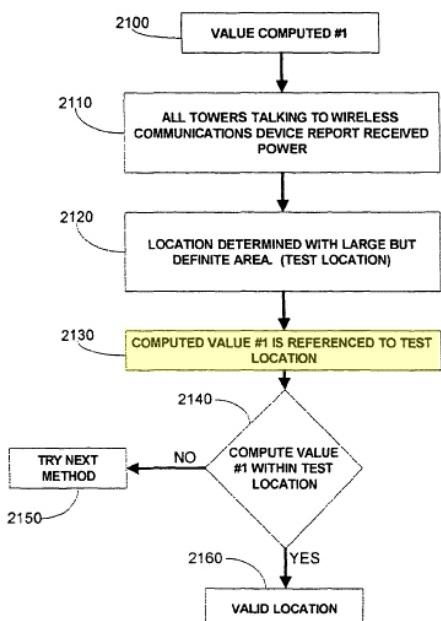


FIG. 21 demonstrates the Compare (validation method in FIG. 20 (2020, 2040) method when validating location. First, the computed value 2100 is passed to the algorithm. It looks at whether all the towers in the range of the wireless device 104 are communicating with the wireless device 104 (and their RSSI) 2110. Then a test zone is established 2120 that is a large but definitive area based on the towers communicating with the wireless device 104 is computed. The computed (original location) is compared to the test zone 2130. If the computed value resides within this zone then the location is checked as valid 2160. If it is not, the next method for location 2150 as shown in FIG. 20 is requested.

In FIG. 21 the error check method of the FIG. 20 is shown. After the value is computed for location, it is checked. All towers first report RSSI of the wireless device 104. Location zone is then determined in a rough sized area. If the measurement falls within this area then the location is accurate. If not a signal to use the next method is returned. Alternatively, wireless devices 104 comprising location equipment such as, for example, GPS, may also be considered as a source for location information, and evaluated on the accuracy of the location method utilized at the wireless device 104.

TEST LOCATION.” The textual description of the Figure 21 (reproduced and annotated below) provides as follows for process 2130: “The computed (original location) is compared to the test zone.” ’284 Patent col.27 ll.22–43.¹³ Thus, the computed value is “referenced” to a test location in that it is compared to the test location that serves as a reference.

The other “references” and “referencing” terms are found in a substantially identical context. The ’320 Patent provides:

referencing the performance data to expected performance data; determining at least one suggested corrective action in conformity with differences between the performance data and expected performance data in conjunction with the indication of location.

’320 Patent col.130 ll.19–24 (Claim 4). The ’024 Patent provides:

wherein the computer references the performance data to expected performance data, wherein the computer determines at least one suggested corrective action in

¹³ Given relationship amongst the Asserted Patents, a substantially identical disclosure is found in the ’320 and ’024 Patents. ’320 Patent col.28 ll.39–62; ’024 Patent col.28 l.55 – col.29 l.11.

conformity with differences between the performance data and expected performance data in conjunction with the indication of location,

'024 Patent col.128 ll.20–24 (Claim 1),

referencing the performance data to expected performance data; determining at least one suggested corrective action in conformity with differences between the performance data and expected performance data in conjunction with the indication of location,

id. at col.129 ll.18–23 (Claim 6),

wherein the computer references the performance data to expected performance data, and wherein the computer determines at least one suggested corrective action in conformity with differences between the performance data and expected performance data in conjunction with the indication of location,

id. at col.130 ll.32–38 (Claim 11),

the computer referencing the performance data to expected performance data; and the computer determining at least one suggested corrective action in conformity with differences between the performance data and expected performance data in conjunction with the indication of location,

id. at col.131 l.31 – col.32 l.2 (Claim 17). And the '284 Patent provides:

referencing performance of said at least one wireless device with wireless network known parameters,

'284 Patent col.126 ll.24–26 (Claim 1).

Accordingly, the Court holds that Defendants have not proven any claim indefinite based on the referencing terms and construes the referencing terms, with surrounding claim language for context, as follows:

- “referencing performance of said at least one wireless device with wireless network known parameters” means “comparing performance of said at least one wireless device with wireless network known parameters”;
- “referencing the performance data to expected performance data” means “comparing the performance data to expected performance data”; and

- “references the performance data to expected performance data” means
“compares the performance data to expected performance data.”
- F. “means for . . . suggest corrective actions” and “means for . . . correcting radio frequency signals”**

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“means for receiving said performance data and suggest corrective actions obtained from a list of possible causes for said radio tower based upon the performance data and the corresponding location associated with said at least one wireless device” • ’284 Patent Claim 1	This is a § 112, ¶ 6 term. Structure: The algorithm disclosed in Fig. 38-A; Fig. 38-B; and, Fig. 38-C and described at col. 54, line 21 through col. 55, line 41.	This is a § 112, ¶ 6 term. Structure: not adequately disclosed
“means for receiving said performance data and corresponding locations from said radio tower and correcting radio frequency signals of said radio tower” • ’284 Patent Claim 12	This is a § 112, ¶ 6 term. Structure: The algorithm disclosed in Fig. 38-A; Fig. 38-B; and, Fig. 38-C and described at col. 54, line 21 through col. 55, line 41.	This is a § 112, ¶ 6 term. Structure: not adequately disclosed

Because the parties’ arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties’ Positions

Plaintiff submits: Its constructions comport with the agreed construction entered in *Huawei*.¹⁴ Further, the structure disclosed at figures 38-B and 38-C along with the text at column 55 lines 22 through 41 is linked to the recited functions.¹⁵ Dkt. No. 155 at 18–19.

¹⁴ 2019 U.S. Dist. LEXIS 2130 at *14–16.

¹⁵ Plaintiff addresses Defendants’ positions set forth in the parties’ Joint Claim Construction and Prehearing Statement, Dkt. No. 148 (Feb. 4, 2019) instead of the position set forth in the parties’ Amended Joint Claim Construction and Prehearing Statement, Dkt. No. 153 (Feb. 11, 2019). Originally, Defendants proposed: “The algorithm disclosed in Fig. 38-A and described at col. 54,

Defendants respond: The '284 Patent fails to provide structure for performing the recited function. Specifically, there is no disclosure of structure for "determining what tuning to apply given a particular error and device location." The structure identified by Plaintiff does not describe using location to determine the correction to be applied. Given that location-dependent correction is core to the invention, as explained during prosecution of the '284 Patent, and the requirement for such in the claims, the failure to disclose structure for providing a location-based correction is fatal. Dkt. No. 163 at 16–20.

In addition to the claims themselves, Defendants cite the following intrinsic and extrinsic evidence to support their position: **Intrinsic evidence:** '284 Patent figs.38-A, 38-B, 38-C, col.54 1.21 – col.55 1.5, col.55 ll.34–36; '284 Patent File Wrapper December 29, 2009 Amendments (Defendants' Ex. H, Dkt. No. 163-9), September 28, 2012 Amendment and Response Plaintiff's Ex. B, Dkt. No. 155-3). **Extrinsic evidence:** Turnbull Decl. ¶¶ 53–61, 72–80 (Defendants' Ex. C, Dkt. No. 163-4 at 16–18, 20–22).

Plaintiff replies: Defendants identified structure for these terms in the parties' Joint Claim Construction and Prehearing Statement (Dkt. No. 148-2) and thereby admitted the existence of structure and waived their indefiniteness argument. Further, consideration of Dr. Turnbull's opinion would be improper since the claim language is not ambiguous in light of the intrinsic evidence. Dkt. No. 164 at 4–5.

Analysis

The issue in dispute appears to be whether the '284 Patent discloses sufficient structure for performing location-based corrections of the claims. Plaintiff's identified structure is not tied to

line 21 through col. 55, line 2." Dkt. No. 148-2 at 22–23. In the amended statement, Defendants proposed: "The structure is not adequately disclosed." Dkt. No. 153-2 at 18–19.

providing a correction based on location and thus is inadequate to support a means-plus-function term reciting the function of suggesting corrective actions based upon the location. That said, the Court finds this function only in Claim 1 of the '284 Patent, not in Claim 12 of the '284 Patent.

To begin, Plaintiff suggested at the hearing that the '284 Patent provides enough information to enable one of ordinary skill in the art to derive an algorithm to provide a corrective action based upon location data. This, however, is not the standard to satisfy the disclosure requirement of 35 U.S.C. § 112, ¶ 6. The Federal Circuit has clearly addressed this very issue:

The fact that an ordinarily skilled artisan might be able to design a program to [implement the recited function] goes to enablement. The question before us is whether the specification contains a sufficiently precise description of the “corresponding structure” to satisfy section 112, paragraph 6, not whether a person of skill in the art could devise some means to carry out the recited function.

Blackboard, Inc. v. Desire2Learn, Inc., 574 F.3d 1371, 1384–85 (Fed. Cir. 2009). That is, “[a] patentee cannot avoid providing specificity as to structure simply because someone of ordinary skill in the art would be able to devise a means to perform the claimed function.” *Id.* at 1385. Disclosure of the function alone, or, equivalently, the outcome of the function, does not satisfy the statute. *Id.*; see also, *Aristocrat Techs. Austl. PTY Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1334 (Fed. Cir. 2008) (holding that an “equation [that] describes an outcome, not a means for achieving that outcome . . . does not disclose the structure of the claimed device, but is only another way of describing the claimed function.”).

The Court finds a location-based-correction in Claim 1 but not in Claim 12. Claim 1 recites:

means for receiving said performance data and ***suggest corrective actions*** obtained from a list of possible causes for said radio tower ***based upon*** the performance data and ***the corresponding location associated with said at least one wireless device***.

'284 Patent col.126 ll.33–37 (emphasis added). Claim 12 recites:

means for receiving said performance data and corresponding locations from said radio tower and correcting radio frequency signals of said radio tower, and,

whereby said first computer corrects the radio frequency signals of the radio tower in order to improve communication with said wireless devices.”

Id. at col. 126 ll.31–37. Claim 1 expresses that the corrective actions are based on location. Claim 12 does not. This suggests that the limitation expressed in Claim 1 should not be imported into Claim 12. *See SRI Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1122 (Fed. Cir. 1985) (en banc) (“It is settled law that when a patent claim does not contain a certain limitation and another claim does, that limitation cannot be read into the former claim in determining either validity or infringement.”).

The remarks made during prosecution of the ’284 Patent do not rise to a disclaimer of corrective actions that are not based on location that would work to import a location-based-correction function into Claim 12. The argument in the Dec. 29, 2009 Amendments provided alternative grounds of distinction: the prior art “is silent on using the position information or the radio frequency signal characteristics of a wireless device to adjust the radio frequency signal characteristic of the radio tower.” This argument was made in the context of two pending independent claims, the first reciting “means for receiving said radio frequency signal characteristic data and adjusting radio frequency signal characteristics of said radio tower **based upon the location**” of a wireless device, the second reciting “means for receiving said radio frequency signal characteristic data from said radio tower and adjusting said radio frequency signals of said radio tower.” One reasonable interpretation of the patentee’s argument is: (1) the first pending independent claim was distinct from the prior art because the prior art was silent on using position information, as expressly recited in the claim, and (2) the second pending independent claim was distinct from the prior art not because of use of location data, which was not recited in the claim, but because of use of the frequency signal characteristic, on which the prior art was also silent. Dkt. No. 163-9 at 10–11 (emphasis added). Thus, the prosecution

statements do not constitute clear and unmistakable disclaimer of corrective actions not based on location. *See 3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013) (“Where an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.”).

Likewise, the remarks made in the September 28, 2012 Amendment and Response do not rise to the disclaimer Defendants advocate. While the patentee then distinguished the prior art in part based on the lack of location data in the prior art, it did not make any statements that would clearly and unmistakably indicate that the patentee was disclaiming from the scope of Claim 12 all corrective actions not based on location. Specifically, the patentee noted the prior art “does not present a method for geographic location within the wireless system.” Notably, the pending claim expressly recited a “first computer programmed to: 1) routinely identify performance data and corresponding location” and “means for receiving said performance data and corresponding location.” Dkt. No. 155-3 at 56. One reasonable interpretation of this prosecution argument was that the prior art at issue was different from the claimed invention, not because of any location-based corrective action implicit in the pending claim and lacking in the prior art, but rather because the prior art did not provide location as was expressed in the pending claim. Simply, there is no clear and unmistakable prosecution-history disclaimer that justifies reading a location-based corrective action into Claim 12.

With respect to the location-based corrective actions of Claim 1, the structure identified by Plaintiff is not clearly linked or associated with the Claim 1 function of “suggest corrective actions . . . based upon . . . the corresponding location associated with said at least one wireless device.” Notably, Plaintiff has not explained how the structure it identifies is linked to providing location-based corrective actions. At best, Plaintiff has provided speculation as to how location data might

be able indicate an error or suggest a corrective action. But nowhere in Plaintiff's cited disclosure does the Court perceive a description of using location data in that way. It may be true that the disclosure provides enough information for one of ordinary skill in the art to devise an algorithm or program to use location data to provide corrective actions, but that is not the § 112, ¶ 6 standard.

Accordingly, Defendants have proven that Claim 1 of the '284 Patent is indefinite and construes Claim 12's "means for receiving . . ." term as follows:

- "means for receiving said performance data and corresponding locations from said radio tower and correcting radio frequency signals of said radio tower" means:
 - **function:** receiving said performance data and corresponding locations from said radio tower and correcting radio frequency signals of said radio tower
 - **structure:** the algorithm disclosed at '284 Patent, at figs. 38-A, 38-B, 38-C, col.54 l.21 – col.55 l.41

G. '284 Patent Claim 12

Disputed Term	Plaintiff's Proposed Construction	Defendants' Proposed Construction
"A machine and process for tuning a wireless network, comprising: . . ."	not indefinite	indefinite
• '284 Patent Claim 12		

The Parties' Positions

Plaintiff submits: Claim 12 is not indefinite for the reasons set forth by the Court in *Huawei*.¹⁶ Dkt. No. 155 at 31.

¹⁶ 2019 U.S. Dist. LEXIS 2130 at *45–52.

Defendants respond: Claim 12 is an apparatus claim that requires method steps, and therefore is indefinite for mixing apparatus and method limitations. This is apparent from limitations recited in the body of the claims, e.g., “a second computer generating a status request.” It is also apparent from the preamble, which recites a “machine and process for tuning.” The preamble should not be regarded as nonlimiting, as the Court did in *Huawei*, since the preamble was amended during prosecution to overcome prior art. Specifically, the preamble was amended from a “wireless network tuning system” to a “machine and process for tuning a wireless network.” Dkt. No. 163 at 20–21.

In addition to the claims themselves, Defendants cite the following intrinsic and extrinsic evidence to support their position: **Intrinsic evidence:** ’284 Patent File Wrapper December 29, 2009 Amendments (Defendants’ Ex. H, Dkt. No. 163-9), December 19, 2011 Amendment and Response (Defendants’ Ex. F, Dkt. No. 163-7). **Extrinsic evidence:** Turnbull Decl. ¶ 64 (Defendants’ Ex. C, Dkt. No. 163-4 at 18–19).

Plaintiff replies: Defendants present the same arguments that the Court rejected in *Huawei*. Dkt. No. 164 at 11.

Analysis

The issue in dispute is whether Claim 12 of the ’284 Patent is indefinite as improperly directed to both an apparatus and a process. It is not. In light of Federal Circuit precedent, Claim 12, though inartfully drafted, is directed solely to a machine.

The preamble’s reference to a “machine and process” is concerning, but not limiting. “Generally, the preamble does not limit the claims.” *Allen Eng’g Corp. v. Bartell Indus.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002). Under Federal Circuit precedent “a preamble is not limiting where a patentee defines a structurally complete invention in the claim body and uses the preamble only to

state a purpose or intended use for the invention.” *Acceleration Bay, LLC v. Activision Blizzard, Inc.*, 908 F.3d 765, 770 (Fed. Cir. 2018) (quotation marks and citations omitted). As set forth in more detail below, the body of Claim 12 sets forth a structurally-complete invention that is a machine. The preamble does not provide antecedent basis for any terms in the body of the claim. The preamble is not essential to understanding the claim’s limitations—which are all directed to machine structure. And while the preamble was amended during

prosecution of the ’284 Patent, the distinction

over the prior art was based on structural limitations appearing in the body of the claim. ’284 Patent File Wrapper December 29, 2009 Amendments at 6, 11–12 (Dkt. No. 163-9 at 7, 10–11), December 19, 2011 Amendment and Response at 7, 15–16 (Dkt. No. 163-7 at 8, 16–17). The preamble thus lacks the hallmarks of a limiting preamble under Federal Circuit precedent. See *Catalina Mktg. Int’l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808–09 (Fed. Cir. 2002). Ultimately, the preamble’s recitation of a “machine and process” is not dispositive.

Claim 12, reproduced here and annotated by the Court, recites only machine limitations. Specifically, the claim recites: (1) at least two wireless devices, (2) a first computer, (3) a radio tower, and (4) a second computer. The claim also recites functional language referencing the

machine elements, such as “communicating,” “generating,” and “corrects.” The claim further recites that a “a user . . . is able to set a no access flag.” Under Federal Circuit precedent, the claim body recites machine elements using functional language to denote structure of the machine rather than actual operation of the machine.

Active functional language is properly used in apparatus claims to denote capability of the apparatus. As the Federal Circuit explained in *Mastermine Software, Inc. v. Microsoft Corp.*, functional language may properly be used to denote structure of machine elements: “[active] verbs represent permissible functional language used to describe capabilities of the [machine elements].” 874 F.3d 1307, 1315–16 (Fed. Cir. 2017). The claim at issue in *Mastermine* includes “a reporting module” that “**presents** a set of user-selectable database fields,” “**receives** from the user a selection of one or more user-selectable database fields,” and “**generates** a database query.” *Id.* at 1315 (emphasis in original). The Federal Circuit explained that while the claim recited active verbs—presents, receives, generates—these “merely claim that the system possesses the recited structure which is capable of performing the recited functions.” *Id.* at 1316 (quotation and modification marks omitted). According to *Mastermine*, Federal Circuit precedent has consistently approved using functional language to denote machine structure by denoting capability. As examples of such approval, *Mastermine* cites *Microprocessor Enhancement Corp. v. Tex. Instruments Inc.*, 520 F.3d 1367 (Fed. Cir. 2008); *HTC Corp. v. IPCom GmbH & Co., KG*, 667 F.3d 1270 (Fed. Cir. 2012); and *UltimatePointer, L.L.C. v. Nintendo Co.*, 816 F.3d 816 (Fed. Cir. 2016). *Mastermine*, 874 F.3d at 1313–16. In *Microprocessor Enhancement*, claim recitation of a “logic pipeline stage . . . **performing** a boolean algebraic evaluation . . . and **producing** an enable-write” was deemed “clearly limited to a pipeline processor possessing the recited structure and **capable** of performing the recited functions, and is thus not indefinite under *IPXL Holdings*.” *Mastermine*, 874 F.3d at

1315 (emphasis in original, quotation marks omitted). In *HTC Corp.*, claim recitation of a “mobile station for use with a network . . . that achieves a handover by: **storing** link data . . . , **holding** in reserve for the link resources . . . , **maintaining** a storage of the link data . . . , **causing** the resources . . . to remain held in reserve . . . , **deleting** the link data . . . , and **freeing** up the resources” was deemed to “merely establish those functions as the underlying network environment in which the mobile station operates.” *Mastermine*, 874 F.3d at 1314–15 (emphasis in original, quotation marks and modifications omitted). In *Ultimate Pointer*, claim recitation of “an image sensor . . . **generating** data” was deemed to be “clear that the ‘generating data’ limitation reflects the capability of that structure rather than the activities of the user, and do not reflect an attempt to claim both an apparatus and a method, but instead claim an apparatus with particular capabilities.” *Mastermine*, 874 F.3d at 1315 (emphasis in original, quotation marks omitted).

The Court understands the functional language in Claim 12 of the ’284 Patent, including “communicating,” “generating,” and “corrects,” is used as is the functional language in *Microprocessor Enhancement*, *HTC Corp.*, *Ultimate Pointer*, and *Mastermine*: the language denotes the structure of the machine, not actual use of the machine. And recitation that “a user . . . is able to set a no access flag” is facially directed to machine capability rather than to a user actually setting a no access flag using the machine. Simply, the functional language in Claim 12 does not indicate that the claim is directed to both an apparatus and a method. Rather, Claim 12 is directed to an apparatus with particular capabilities. Those capabilities, defined by functional language, denote structure.

Accordingly, the Court holds Defendants have not proven that Claim 12 of the ’284 Patent is indefinite.

H. “error code”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“error code” • ’284 Patent Claim 1 • ’320 Patent Claims 2, 5 • ’024 Patent Claims 1, 6, 21	code generated that indicates irregular network problems	code indicating network fault

The Parties’ Positions

Plaintiff submits: “Error code” is not defined in the Asserted Patents to indicate a fault. Rather, it is expressly used in the claims to indicate a “performance issue.” Dkt. No. 155 at 19–20.

Defendants respond: “Error” and “fault” are used interchangeably in the Asserted Patents to refer to network faults. And a “performance issue” is an error that is “service affecting,” which is a network fault. Therefore, the “error code” of the claims is a code indicating a network fault. Dkt. No. 163 at 21–23.

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: ’284 Patent figs.38-A – 38-C, col.36 ll.36–43, col.37 ll.5–8, col.37 ll.20–21, col.38 l.57 – col.39 l.4, col.39 ll.22–25, col.62 ll.60–61, col.71 ll.33–34.

Plaintiff replies: The disclosures cited by Defendants’ relate service-affecting errors to faults, they do not equate “error code” with a code that indicates a network fault. Dkt. No. 164 at 5.

Plaintiff cites further **intrinsic evidence** to support its position: ’284 Patent col.37 ll.3–8, col.38 l.65 – col.39 l.2, col.62 ll.60–61, col.67 ll.28–34, col.71 ll.33–34, col.71 ll.54–57, col.72 ll.38–42, col.74 ll.29–32.

Analysis

The issue in dispute is whether the “error code” of the claims necessarily is a code “indicating a network fault.” It is not.

Because the Court does not understand “performance issue” or “error” to be coextensive with “network fault” it rejects Defendants’ proposed construction. The “error code” is described in the Asserted Patents as something that is decoded and interpreted to determine, e.g., if an error “is service affecting.” ’284 Patent col.38 1.65 – col.39 1.12; *see also, id.* at col.71 ll.51–57 (noting “error codes . . . that indicate irregular network problems”). From this, the Court understands two things. First, not all network errors are “service affecting”—otherwise there would be no need to determine if an error is service affecting. Second, an error code may indicate errors that are not service affecting. To the extent “network fault” is coextensive with a service-affecting error, as Defendants posit, the error code does not necessarily indicate a “network fault.” Further, “error code” is expressly recited in the claims to indicate a “performance issue.” The patents describe proactively optimizing the network to “reduce faults from occurring in the first place.” *Id.* at col.71 ll.33–37. This proactive optimization is based on protocols that “are specifically designed to address the four issues.” *Id.* at col.72 ll.35–45. The “four issues” are described as “[f]actors that can cause the network to perform poorly.” *Id.* at col.65 ll.42–50; *see also, id.* at col.65 1.51 – col.71 1.50. That is, the “four issues” are things that may cause network faults but are not necessarily themselves network faults. They are irregularities that cause less than optimal performance of the network (a problem). Thus, the error code, which may indicate a performance issue, is a code to indicate network problems, including network faults but not only network faults.

Accordingly, the Court construes “error code” as follows:

- “error code” means “code that indicates a network problem.”

I. “access flag” and “no access flag”¹⁷

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“access flag” • ’284 Patent Claim 11	flag permitting the tracking of one of the wireless devices	flag permitting the tracking of the particular wireless device
“no access flag” • ’284 Patent Claims 11, 12 • ’320 Patent Claims 1, 4	flag preventing the tracking of one of the wireless devices	flag preventing the tracking of the particular wireless device

Because the parties’ arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties’ Positions

Plaintiff submits: Claim 9 of the ’284 Patent expressly refers to sending a location of the wireless device in response to a status request. In contrast, Claim 11 and Claim 12 do not include any suggestion that the status request relates to any “particular” wireless device. The “access flag” and “no access flag” are distinct from the “preference flag” of the ’388 Patent’s claims in that the access/no-access flags relate to tracking the location of “wireless devices” rather than “users.”¹⁸ Dkt. No. 155 at 20–21.

Defendants respond: The Asserted Patents describe that a user of a wireless device can set flags to prevent or allow tracking the location of the user’s device. These flags are particular to the user’s device—the user does not control tracking of other devices. Thus, the “status request” and the flags relate to a particular wireless device. Dkt. No. 163 at 23–25.

¹⁷ After briefing was complete, the parties reached agreement on the construction of “status request” as “request for location of a wireless device.” Dkt. No. 166 at 3. Originally, Defendants proposed “request for location of a particular wireless device.” *See, e.g.*, Dkt. No. 165-1 at 6.

¹⁸ Defendants’ originally proposed the flags related to “tracking of the user.” Dkt. No. 153-2 at 5–6.

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: '284 Patent col.7 ll.1–15, col.18 ll.35–49, col.21 ll.50–65, col.29 ll.24–26.

Plaintiff replies: There is no support for the “particular” limitations Defendants seek to inject. Dkt. No. 164 at 6.

Analysis

The dispute is whether the “access flag” and “no access flag” necessarily allow/prevent tracking of “the **particular** wireless device” rather than just any wireless device. They do not.

Claims 1 and 4 of the '320 Patent expressly state that the access/no-access flags are applicable to the device that sets/resets the flags. For example, Claim 1 of the '320 Patent provides:

at least one radio-frequency transceiver . . . configured for radio-frequency communication with at **least one mobile wireless communication device** . . . a first computer coupled to the at least one radio-frequency transceiver programmed to locate the at least one mobile wireless device and generate **an indication of a location of the at least one mobile wireless device** . . . a second computer coupled in communication with the first computer, wherein the first computer, **responsive to a communication from the at least one mobile wireless communication device, sets a no access flag** within a memory of the first computer, and wherein the first computer **provides access to the indication of location** to the second computer if the no access flag is reset and **denies access to the indication of location** to the second computer if the no access flag is set.

'320 Patent col.129 ll.9–12, col.129 ll.28–36 (emphasis added). That is, the indication of location that is accessible or not is specific to the wireless device that communicates to set the flag that governs accessibility. Claim 4 recites similar limitations.

This limitation on flag use is not expressed in Claim 12 of the '284 Patent. The claim provides:

at least two wireless devices . . . first computer programmed to . . . **store . . . location for each of said at least two wireless devices** . . . a second computer generating a **status request** . . . wherein **a user of one of said at least two wireless devices** is able to **set a no access flag** . . . wherein said first computer is programmed to **deny the status request from said second computer if said no access flag is set**.

'284 Patent col.128 ll.11–30 (emphasis added). This suggests that the flags are not limited in Claim 12 as they are expressly limited in the claims of the '320 Patent. Further, the '284 Patent describes

that flags may be set remotely on devices being used by others. *See, e.g.*, '284 Patent col.19 ll.6–10 (“Other alternatives include ***the ability for the privacy flag to be locked*** in the inactive position ***by the owner*** of the wireless device 104, ***by remote access***, if it is ***to be used*** for example, ***by an employee***, a child, a thief or if the wireless device 104 is lost.” (emphasis added)). This runs directly counter to Defendants’ argument that the flag aspect of the invention is limited in that “only the user of that particular wireless device has control over the claimed resetting of the access flag for the user’s own device.” Dkt. No. 163 at 25 (emphases and quotation marks omitted).

Accordingly, the Court construes “access flag” and “no access flag” as follows:

- “access flag” means “flag permitting the tracking of one of the wireless devices”; and
- “no access flag” means “flag preventing the tracking of one of the wireless devices.”

J. “wherein the first computer provides access . . . if the no access flag is reset” and “providing access from the first computer . . . if the no access flag is reset”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“wherein the first computer provides access to the indication of location to the second computer if the no access flag is reset and denies access to the indication of location to the second computer if the no access flag is set” • '320 Patent Claim 1	plain and ordinary meaning	indefinite
“providing access from the first computer to the indication of location to the second computer if the no access flag is reset; and the first computer denying access to the indication of location to the second computer if the no access flag is set” • '320 Patent Claim 4	plain and ordinary meaning	indefinite

Because the parties' arguments and proposed constructions with respect to these terms are related, the Court addresses the terms together.

The Parties' Positions

Plaintiff submits: Defendants did not disclose the basis of their indefiniteness position in the P.R. 4-3 disclosure and ruling on indefiniteness in this proceeding would therefore violate Plaintiff's due-process rights. Dkt. No. 155 at 30.

Defendants respond: Defendants' basis for their indefiniteness position was provided to Plaintiff in Dr. Turnbull's declaration, served on February 4, 2019. The use of "set" and "reset" in the claims suggest both a binary setting of the flags and the return to a previous position. That is, "reset" may require a return to a previous setting, the flag must first be "set" in order to be "reset." And distinct claim language directed to a flag having "not been set" suggests that "reset" is not the same as "not set." Dkt. No. 163 at 26–28.

In addition to the claims themselves, Defendants cite the following intrinsic and extrinsic evidence to support their position: **Intrinsic evidence:** '320 Patent col.20 ll.12–24. **Extrinsic evidence:** Turnbull Decl. ¶¶ 81–86 (Defendants' Ex. C, Dkt. No. 163-4 at 23).

Plaintiff replies: In the context of the '320 Patent's disclosure, the meaning "set" and "reset" is reasonably certain. "Plaintiff does not assert that 'reset' means 'not set.'" Dkt. No. 164 at 11.

Analysis

The issue in dispute distills to whether the meaning of "reset" in the claims is reasonably certain. It is. It refers to a binary setting.

The claims plainly use "set" and "reset" to refer to current binary states of the flag, and without the historical state information suggested by Defendants. Defendants have not identified any intrinsic evidence suggesting that access to the location data is based upon any historical state of

any flag. Rather, the '320 Patent explains that an access-controlling flag may have a “set” or “activated” or “on” state and a “inactive” or “off” or “not . . . on” state. *See, e.g.*, '320 Patent col.19 ll.47–56, col.20 ll.12–24, col.22 l.67 – col.23 l.19. Whether location data may be accessed is strictly a function of the current state of one or more of these flags. *Id.* That is, if the flag is enabled (on, set, activated) then the access is restricted, if the flag is disabled (off, not on, inactive), then access is allowed. “Set” and “reset” are used in the claims precisely in this fashion, to denote whether the flag is enabled (“set”) or disabled (“reset”).

Defendants’ historical-state alternative interpretation is entirely divorced from the description of the invention and is therefore not reasonable. *See, e.g.*, *Nautilus Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014) (a patent’s claims are to be “viewed in light of the specification”); *Phillips v. AWH Corp.*, 415 F.3d 1303, 1321 (Fed. Cir. 2005) (en banc) (disparaging extrinsic evidence of the meaning of a term when such evidence is “divorced from the context of the written description” and noting the risk of improperly focusing on the “meaning of the term in the abstract, out of its particular context”). Notably, the entirety of Dr. Turnbull’s opinion on the issue of “reset” is: “To a person of ordinary skill in the art, the term ‘reset’ implies that the flag must first be set.” Turnbull Decl. at ¶¶ 81–86, Dkt. No. 163-4 at 23. Dr. Turnbull did not provide any analysis of the access flag, or how the state of the flag governs access to location data, as this is described in the '320 Patent. Instead, he embraces an interpretation of “reset” that is entirely divorced from the description of the invention. *Id.* at ¶ 85, Dkt. No. 163-4 at 23. In short, he ignored the risk of focusing on the “meaning of the term in the abstract, out of its particular context,” and instead offers a “conclusory, unsupported assertion[] . . . as to the definition of” reset that is not only not useful to the Court, it is at odds with the description of how an access-flag state controls access to location information. *See Phillips*, 415 F.3d at 1318, 1321.

Defendants are asking the Court to invalidate patent claims based on the fact that ““reset” implies that the flag must first be set.” Dkt. No. 163 at 26. This is a critical fact to the indefiniteness analysis, and “any fact critical to a holding on indefiniteness must be proven by the challenger by clear and convincing evidence.” *One-E-Way, Inc. v. ITC*, 859 F.3d 1059, 1062 (Fed. Cir. 2017) (quotation and modification marks omitted). With this burden in mind, Defendants are asking the Court to rely on Dr. Turnbull’s cursory and conclusory statement to establish the “fact” that purportedly invalidates all the independent claims of the ’320 Patent. The Federal Circuit has noted the risk of relying on such statements: “extrinsic evidence consisting of expert reports and testimony is generated at the time of and for the purpose of litigation and thus can suffer from bias.” *Phillips*, 415 F.3d at 1318. Simply, Defendants have not met their burden.

Accordingly, the Court holds that Defendants have not proven any claim indefinite for use of “reset” and construes the terms in dispute by construing “set” and “reset” in the terms as follows:

- “set” means “enabled”; and
- “reset” means “disabled.”

K. “routinely”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“routinely” • ’284 Patent Claims 1, 12 • ’320 Patent Claim 1 • ’024 Patent Claim 8, 10, 18	plain and ordinary meaning	indefinite

The Parties’ Positions

Plaintiff submits: Defendants did not disclose the basis of their indefiniteness position in the P.R. 4-3 disclosure. This term, like “normally,” “conventionally,” “traditionally,” and “standard,” is not indefinite. Dkt. No. 155 at 23.

Defendants respond: There are two potential interpretations of “routinely” in the claims, and no way to reasonably pick between them. First, “routinely” could refer to the manner in which a task performed “routinely” is performed. For example, “routinely storing performance data” could refer to storing data in a conventional manner. Second, “routinely” could refer to the frequency with which a task is performed. For example, “routinely storing performance data” could refer to storing periodically. Dkt. No. 163 at 29–30.

In addition to the claims themselves, Defendants cite the following **extrinsic evidence** to support their position: Turnbull Decl. ¶¶ 67–68, 70–71, 99–102, 123–24, 126–27 (Defendants’ Ex. C, Dkt. No. 163-4 at 19–20, 25–26, 29–30).

Plaintiff replies: “Routinely,” as it relates to “manner” also relates to frequency (e.g., “not a rare occurrence but rather a high degree of frequency”). Dkt. No. 164 at 7.

Plaintiff cites further **extrinsic evidence** to support its position: *Dictionary.com* “routinely,”¹⁹ “regular,”²⁰ “customary”²¹; *Merriam-Webster Online* “routinely”²² and “regularly”²³; *Babylon Engineering Dictionary*.²⁴

Analysis

The issue in dispute is whether the meaning of “routinely” is reasonably certain in the claim. It is.

The Court understands “routinely” in the claims to be used according to its plain meaning, to refer to a task that is done as a matter of routine rather than as a special event. Dr. Turnbull is not

¹⁹ <https://www.dictionary.com/browse/routinely>

²⁰ <https://www.dictionary.com/browse/regular>

²¹ <https://www.dictionary.com/browse/customary>

²² <https://www.merriam-webster.com/dictionary/routinely>

²³ <https://www.merriam-webster.com/dictionary/regularly>

²⁴ <https://www.babylon-software.com/define/39/engineering-dictionary.html>

credible on this point. After opining that “routinely” does not have any particular meaning in the art, he provides nothing more than a conclusory statement of two potential meanings that he assumes are in tension. But he—and Defendants—present a false dichotomy. The Court sees no tension between “routinely” describing the way in which a task is performed and the frequency with which it is performed. If a task is performed in any way specially, i.e., outside of some routine, then it is not performed “routinely.” This is the plain meaning.

Accordingly, Defendants have not proven that any claim is indefinite for reason of including “routinely” and the Court further holds that “routinely” has its plain and ordinary meaning without the need for further construction.

L. “a second processor”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“a second processor” • ’388 Patent Claims 1, 11	no construction necessary	a processor within the wireless communications network

The Parties’ Positions

Plaintiff submits: This term is easily understandable without construction and the second processor is not inherently “within the wireless communications network.” Further, it is not clear what it means to be “within the wireless communications network.” Dkt. No. 155 at 14–15.

In addition to the claims themselves, Plaintiff cites the following **intrinsic evidence** to support its position: ’388 Patent figs.9–12, 27–29, col.5 1.54 – col.7 1.56, col.17 1.22 – col.37 1.38; ’284 Patent File Wrapper September 28, 2012 Amendment and Response Plaintiff’s Ex. B, Dkt. No. 155-3).

Defendants respond: The “second processor must be within the wireless communications network in order to communicate with the claimed ‘first processor.’” This is expressed in the

claims. In fact, Claim 11 recites “within the wireless communications network, a second processor.” Dkt. No. 163 at 30–32.

Plaintiff replies: Defendants have not shown that a second processor is inherently “within the wireless communication network.” And the fact that “within the wireless communications network” is expressed in other claims means that it should not be read into “second processor.”²⁵ Dkt. No. 164 at 3–4.

Analysis

The issue in dispute appears to be whether “a second processor” is inherently “within the wireless communications network.” It is not.

Claims 1 and 11 each expressly require that the “second processor” is part of (i.e., within) the network so the Court understands that being “within the wireless communications network” is **not** an inherent property of “a second processor.” Claim 1 provides:

at least one second radio-frequency transceiver and an associated at least one second antenna of the wireless communications network to which the second radio-frequency transceiver is coupled . . . a second processor coupled to the at least one second radio-frequency transceiver . . . wherein the second processor . . . communicates the location of the wireless mobile communications device to the first processor via the second radio-frequency transmitter.

’388 Patent col.128 l.66 – col.129 l.15. That is, the second processor is coupled to the second radio-frequency transceiver which is coupled to an antenna of the wireless network and the second processor communicates via the antenna—it is within the wireless network. Claim 11 is more direct, it provides:

²⁵ Plaintiff ostensibly argues that “within the wireless communications network” should not be read into “preference flag.” Dkt. No. 164 at 3–4. Given the section heading for this argument (“A SECOND PROCESSOR”) and the subject matter of the immediately preceding paragraph (whether “the second processor **must be** . . . within the wireless communications network”), the Court assumes that Plaintiff is actually arguing about “second processor” rather than “preference flag.”

within the wireless communications network, a second processor coupled to at least one second radio-frequency transceiver coupled to an associated second antenna . . . communicating the location of the wireless mobile communications device to the mobile wireless communications device ”

Id. at col.130 ll.51–63. Thus, it is clear from the claim language the “second processor” of the claims is within the wireless network. This suggests that “a second processor” is not inherently “within the wireless communications network.” *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) (noting that the use of the term “steel baffles” “strongly implies that the term ‘baffles’ does not inherently mean objects made of steel”).

At the hearing, Defendants seemed to suggest that the second processor cannot be both “within the wireless communications network” and within a wireless mobile communications device. However, the Court does not here hold that just because the second processor of Claims 1 and 11 is within a wireless communications network it is necessarily not within a wireless mobile communications device.

Accordingly, the Court rejects that “a second processor” is inherently “within the wireless communications network” and further determines the term has its plain and ordinary meaning without the need for further construction.

M. “preference flags”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“preference flags” • ’388 Patent Claims 1, 11, 21	flags that control access to tracking	two or more flags to control access to the tracking of the user and access to the user’s account

The Parties’ Positions

Plaintiff submits: The claims at issue expressly note that the preference flags are related to tracking “of the user”; therefore, such a limitation should not be included in the construction of “preference flags.” Dkt. No. 155 at 22.

Defendants respond: The plural form of “preference flags” mandates that there be two or more flags. The only “preference flags” described in the ’388 Patent “will control access to the tracking and access of their accounts”; therefore, the “preference flags” of the claims must control access to the tracking of the user and access to the user’s account. That is, the description of “preference flags” is definitional. Dkt. No. 163 at 32–34.

In addition to the claims themselves, Defendants cite the following **intrinsic evidence** to support their position: ’388 Patent col.62 ll.11–32.

Plaintiff replies: The description of “preference flags” in the ’388 Patent is a description of an “embodiment” and therefore is not limiting of “preference flags.” Dkt. No. 164 at 6–7.

Plaintiff cites further **intrinsic evidence** to support its position: ’388 Patent col.62 ll.13–15.

Analysis

The issue in dispute appears to be whether the “preference flags” of the claims necessarily “control . . . access to the user’s account.” They do not.

The description of “preference flags” that Defendants contend is definitional is not. In context, the described “preference flags” are simply flags to denote a user preference. Specifically, the Asserted Patents provide: “Wireless devices 104 should be able to submit preference flags that will control access to the tracking and access of their accounts by the said embodiment. The levels that could be defined for *this type of preference* are:” ’388 Patent col.62 ll.14–17. The Court understands from this that preferences come in a variety of types and preference flags can be used for different types of preferences. That is, a “preference flag” is not limited to the particular type of user preference related to tracking and account access. Indeed, the claims recite what preferences are set by the flag. For example, Claim 1 of the ’388 Patent expressly recites that “preference flags” may be “set to a state that permits tracking of the user of the wireless mobile

communications device.” Further, Claim 25, which depends from Claim 1, expressly requires the preference flag to control access to a user’s account. This suggests that such access control is not an inherent aspect of the “preference flags” and should not be read into the independent claims.

Accordingly, the Court construes “preference flags” as follows:

- “preference flags” means “two or more flags to control access to tracking of the user.”

N. “the second radio-frequency transmitter”

Disputed Term	Plaintiff’s Proposed Construction	Defendants’ Proposed Construction
“the second radio-frequency transmitter”	plain and ordinary meaning	indefinite
• ’388 Patent Claim 1		

The Parties’ Positions

Plaintiff submits: Defendants cannot prove by clear-and-convincing evidence that this term lacks an antecedent basis or is otherwise indefinite. Dkt. No. 155 at 25.

Defendants respond: This term lacks antecedent basis and therefore renders Claim 1 of the ’388 Patent indefinite. The “second radio-frequency transceiver” recited in the claims cannot be the antecedent basis for “the second radio-frequency transmitter” since a transceiver is not the same as a transmitter. A transceiver often has “numerous transmission components” so it would be unclear which of these is these is “the second radio-frequency transmitter” even if the “second radio-frequency transceiver” could form the antecedent basis. And the claim allows for multiple “second radio-frequency transceivers” so it would be unclear which of these is these is antecedent reference for “the second radio-frequency transmitter” even if the “second radio-frequency transceiver” could form the antecedent basis. Dkt. No. 163 at 34–35.

In addition to the claims themselves, Defendants cite the following **extrinsic evidence** to support their position: Turnbull Decl. ¶¶ 134–37 (Defendants’ Ex. C, Dkt. No. 163-4 at 32).

Plaintiff replies: A “transceiver” inherently includes a “transmitter” and therefore the “second radio-frequency transceiver” properly forms the antecedent reference for the “second radio-frequency transmitter.” Dkt. No. 164 at 8.

Plaintiff cites further **extrinsic evidence** to support its position: Turnbull Decl. ¶¶ 135–37 (Defendants’ Ex. C, Dkt. No. 163-4 at 32).

Analysis

The issue in dispute distills to whether it is reasonably certain that “the second radio-frequency transmitter” refers to the transmitter of the “second radio-frequency transceiver.” It is.

It is undisputed that a transceiver inherently includes a transmitter. As such, prior recitation of “at least one second radio frequency transceiver” provides the antecedent basis for the subsequently-recited “the second radio-frequency transmitter.” *See Bose Corp. v. JBL, Inc.*, 274 F.3d 1354, 1359 (Fed. Cir. 2001) (“Inherent components of elements recited have antecedent basis in the recitation of the components themselves.” (quotation marks omitted)).

The Court rejects Defendants’ argument that, because there may be more than one second radio frequency transceiver and each second radio frequency transceiver may have more than one transmitter, subsequent reference to “the” transmitter of “the” transceiver renders the claim indefinite. Indeed, this argument is fundamentally at odds with well-established precedent. Claim terms are routinely recited in a singular form but encompass the plural without risk of indefiniteness. For example, recitation of “a transceiver” and then subsequent recitation “the transceiver” still encompasses multiple transceivers without being indefinite. The Federal Circuit has explained this “well-established precedent”:

As a general rule, the words “a” or “an” in a patent claim carry the meaning of “one or more.” . . . The subsequent use of definite articles “the” or “said” in a claim to refer back to the same claim term does not change the general plural rule, but simply reinvokes that non-singular meaning.

01 Communique Lab., Inc. v. LogMeIn, Inc., 687 F.3d 1292, 1297 (Fed. Cir. 2012) (quotation marks and citations omitted). Defendants’ argument effectively challenges the validity of all such claims. If “a component” allows for more than one of that component, as is the law, and subsequent reference to “the component” is indefinite if the antecedent “a component” may be more than one component, as Defendants propose, then it seems that all such claims are indefinite. The Court refuses to embrace such a rule.

Accordingly, Defendants have not proven that any claim is indefinite for including “the second radio-frequency transmitter” and construes “the second radio-frequency transmitter” as follows.

- “the second radio-frequency transmitter” means “the transmitter of the second radio-frequency transceiver.”

V. CONCLUSION

The Court adopts the constructions above for the disputed and agreed terms of the Asserted Patents. The Court further finds that Claim 1 of the ’284 Patent is indefinite. Furthermore, the parties should ensure that all testimony that relates to the terms addressed in this Order is constrained by the Court’s reasoning. However, in the presence of the jury the parties should not expressly or implicitly refer to each other’s claim construction positions and should not expressly refer to any portion of this Order that is not an actual construction adopted by the Court. The

references to the claim construction process should be limited to informing the jury of the constructions adopted by the Court.

SIGNED this 15th day of April, 2019.



ROY S. PAYNE
UNITED STATES MAGISTRATE JUDGE